November 9, 2004

John N. Wachtler
Minnesota Environmental Quality Board
658 Cedar Street
St. Paul, MN 55155

Re: Docket MEQB No. 03-73-TR-Xcel

Dear Mr. Wachtler:

Here are Xcel Energy's responses to EQB staff's information requests numbers eight (8) and nine (9) regarding the Split Rock to Lakefield 345 kV & Chanarambie to Nobles County 115 kV transmission line project.

Request No. 8

Xcel Energy states in the application that the transmission lines will be built in accordance with the National Electrical Safety Code (NESC) requirements. During scoping meetings, however, some landowners and residents along potential routes expressed concern about how close transmission lines might be to their homes, and requested more detailed information about the minimum safety setbacks required for residences, farm buildings, trees, and other buildings. Please provide the minimum NESC or other applicable requirements (such as NERC) for the transmission lines that will be constructed for this project. In other words, please identify the minimum safety requirements in relation to structures and trees, and a summary of the basis for these requirements.

Table 1 is attached which provides clearances required for the 345 kV and 115 kv transmission lines which notes both NESC and Xcel Energy design minimum clearances for various conditions. Xcel Energy generally designs transmission lines to more conservative minimum clearances than the NESC requirements. Some clearances are mandated by MN/DOT. Xcel Energy has initiated more conservative clearances than NESC in cases where we have determined we need additional clearances to protect our facilities from damage.

Request No. 9

Please provide an update of the Company's ongoing "beyond 825" wind outlet transmission studies for Southwest Minnesota. Please summarize study results to date for both short-term (2008-2009) and long-term transmission needs, including an analysis of whether a particular route or route-segment under consideration for the current 345/115 kilovolt project might be more compatible with likely future transmission projects than other potential routes under consideration.

There are four transmission studies study's underway or just being initiated that may have some influence on the longer range design of transmission facilities in SW Minnesota. Three of these studies are known as the Northern MAPP Exploratory study, The Northern Iowa Exploratory study, and the CAPX 15 year study.

These three studies are all designed to explore some long range concepts to provide high level information on what kinds of efforts are required to achieve possible goals such as increasing transmission capacity from North and South Dakota, exporting large blocks of wind generation from primarily northern Iowa to the twin cities or to the east, or in the case of CAPX to identify what may be needed to serve the potential Minnesota load growth over the next 15 years. These studies are not designed to recommend any specific projects, alternatives or routes. Additional studies will be required after these efforts are complete to finalize details of additional facility needs and to support any permitting efforts that would be required.

For example, in the Northern MAPP Exploratory Study the analysis is looking at (among many concepts) what possible increase in transmission capacity to the Twin Cities market may be achievable by a 345 kV line from western North Dakota, across the state to eastern North Dakota and down to the Twin Cities. This is being compared to a similar line from western North Dakota southeast through eastern South Dakota and than east to the twin cities. Several questions are being asked: "Does one perform better than the other?" "Does one provide more flexibility for possible wind generation expansion in North or South Dakota?" "How much capacity increase is achievable with a single new 345 kV line?"

Once these types of high level questions are answered, proposals can be identified and basic concepts chosen that would feed into the development of more detailed studies. At that time more actual project proposals would be developed including possible route considerations.

There is also another study underway to investigate what it might take to allow some additional wind generation development to continue above 825 MW while the regional concept studies are underway and completed. This study was just kicked off at the Missouri Basin – Sub-Regional Planning group meeting and results are not expected until early 2005.

Given this, we have no specific projects to identify that would warrant consideration of alternative structure design configurations at this time.

Please feel free to contact me at 715-839-4661 to discuss these issues in more detail.

Sincerely,

Pamela Jo Rasmussen
Team Lead, Siting & Permitting

Xcel Energy Transmission Line Clearances
345 kV and 115 kV Transmission Lines

	345 kV Transmission Lines		115 kV Transmission lines	
Condition	**NESC minimum clearance to conductor**	**Xcel Energy design minimum clearance to conductor**	**NESC minimum clearance to conductor**	**Xcel Energy design minimum clearance to conductor**
Roads, streets, agricultural lands, forests traversed by vehicles	24'-9" (vertical)	34' (vertical	20'-1" (vertical)	25' (vertical)
Water areas not suitable for sail boating	23'-3" (vertical)	34' (vertical)	18'-6" (vertical)	25' (vertical)
Water areas suitable for sail boating - 20 to 200 acres	39'-9" (vertical)	40'(vertical)	30'-1" (vertical)	31' (vertical)
Water areas suitable for sail boating - 200 to 2000 acres	45'-9" (vertical)	46' (vertical)	36'-1" (vertical)	37' (vertical)
Building roofs not accessible to pedestrians	18'-9" (vertical)	No buildings allowed in easement.	14'-1" (vertical)	No buildings allowed in easement
Building roofs accessible to pedestrians	19'-9" (vertical)	No buildings allowed in easement.	15'-1" (vertical)	No buildings allowed in easement
Building walls, projections, balconies	10'-9" (horizontal)	13'-9" horizontal from conductor blowout. No buildings allowed in easement.	6'-1" (horizontal)	9'-1" horizontal from conductor blowout No buildings allowed in easement.
Grain Bin vertical clearance	18' above highest fill point.	No grain bins allowed in easement.	18' above highest fill point	No grain bins allowed in easement
Grain Bin horizontal clearance	Highest bin height + 18'.	No grain bins allowed in easement plus highest bin height 18' horizontal clearance.	Highest bin height + 18'	No grain bins allowed in easement Highest bin height + 18' horizontal clearance
Tree horizontal clearance	No specific requirement.	20'(vertical). 15' maximum mature height of trees within easement. No trees within 25' of structures or within maintenance access roads.	No specific requirement	15' vertical 15' maximum mature height of trees within easement No trees within 25' of structures or within maintenance access roads
Tree vertical clearance	No specific requirement.	13'-9" horizontal from conductor blowout. 15' maximum mature height of trees within easement. No trees within 25' of structures or within maintenance access roads.	No specific requirement	9'-1" horizontal from conductor blowout 15' maximum mature height of trees within easement No trees within 25' of structures or within maintenance access roads

Sources: NSP Transmission/Construction Standard TR 0101 for clearances to structures, roads, etc. This standard notes NSP's minimum design clearance at highest operating temperature of conductor for various conditions (road, building, lake, etc.) under the conductors and also notes the NESC minimum clearances. NSP Transmission Standard TP 0401, TP0402, TP0403, TP0404 and TP0405 for clearances to trees. Xcel Energy is currently reviewing its company wide standards for tree trimming.